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EGYPTIAN CHRONOLOGY.

A Self-verifying Chronological History of Ancient Egypt. A Book of Startling Discoveries. By Orlando P. Schmidt. Pp. 569. (Cincinnati: O. G. C. Shaw, 1900.)

THE portly volume before us professes to deal with the "chronological history" of Egypt, and to treat the subject in such a lucid manner that every part of it explains itself and "proves" itself. The author is candid, and advertises his work in the freest possible manner, and he appears to be thoroughly convinced of the supreme value of his labours. According to him, the field of Egyptian history was hastily explored, "usually at odd times"—whatever that may mean—but armed with his "key," which a "fortuitous discovery" had placed in his hands, he "entered a lost world, all recollection of which had died out, and there made a series of discoveries, and gathered together a great mass of new historical facts, the startling and far-reaching importance of which it would be almost impossible to estimate." He admits that he once held many of the opinions common to modern Egyptologists in general, but his "native common sense recoiled from" the errors and superstitions regarding the Egyptians which were current among so-called "scientists"; though of certain errors and superstitions he once found it impossible to free his mind, and apparently this is still the case. He wrote his book whilst "the researches were being made," and his "point of view was constantly changing," and his "horizon was constantly widening." Among Egyptologists, the author thinks "superficial skepticism" has taken the place of "scientific criticism," and this had led many of them "to belittle and misrepresent the civilisation of Egypt prior to the beginning of the Fourth Dynasty," and they tell us "flat footed" (whatever this word may mean here) "that the first three dynasties of Manetho were mythical." Mr. Schmidt thinks that the names of Noah, Shem, Ham and Japheth are Egyptian and not Hebrew words, and he says that "scientists" will have to account for the remarkable coincidence between the date of the Hyksos expulsion and that of Jacob's birth.

The merest glance at the book shows that Mr. Schmidt has built his book up entirely, in our opinion, from the works of Egyptologists, and yet he does not wish to "weaken the effect of the facts presented" by encumbering the text with a mass of miscellaneous citations from so-called "authorities," an ingenious way of avoiding the publication of his vast indebtedness. He is not content with setting Egyptian chronology on a firm base, but he wishes to take a prominent position as an exponent of the vexed Mycenæan question, for he tells us quite gravely that the "Ionians (*Ia-nim*) were settled in the Grecian Archipelago and on the adjoining shores of Greece and Asia Minor as far back as the reign of Teta, or 3146 B.C."! It has been necessary to select the above statements from Mr. Schmidt's preface so that the reader may know the manner and style of the book which he has to deal with; but before we attempt to summarise the general contents we must point out that the industrious author of this remarkable compilation seems to have been mistaken on

certain important points. To begin with, all the evidence which has been derived from prehistoric sites in Egypt during the last six years proves conclusively that the first three dynasties are historical facts, and no competent Egyptologist ever doubted the existence of the kings who belonged to them. It is clear, from the remarks which Mr. Schmidt makes in his preface, that he does not know enough Egyptology to decide what authority to follow. Egyptologists have for a generation or more declared the great antiquity of Egyptian civilisation, and it is only the semi-religious and pseudo-scientific writers on Egyptian history who have been too biased to see the light; the writings of some of the latter must form the slain enemies whom Mr. Schmidt sets out to slay again. Had Mr. Schmidt read M. J. de Morgan's "*Recherches Préhistoriques*," which were published in 1896 and 1897, he would have seen that Egyptian civilisation must be thousands of years older than he supposes; and it is possible that he would have kept his work in manuscript. Sir Norman Lockyer has proclaimed, in his "*Dawn of Astronomy*," with no uncertain voice the great antiquity of Egyptian civilisation, and, what is more, his facts have never yet been controverted; but we see no mention of the results achieved by de Morgan and Lockyer, or even any indication that they are known to him in Mr. Schmidt's book. We have no wish to belittle the work of any pioneer in archaeology, but when we see Mr. Schmidt solemnly quoting Canon Rawlinson's *old* publications on Egyptian chronology we feel sure that he does not know how to select his authorities; and if he refers to excellent and, according to their bias, honest men like Canon Rawlinson as "authorities," it proves conclusively that he does not know what an Egyptologist is.

Mr. Schmidt divides his book into two parts, which are preceded by a preface, from which we have already quoted, and by an introduction; in the first part, he deals with the Sothic (*sic*) system of chronology and the lists of Manetho, the Twelve Months, the Signs of the Zodiac, the formation of the Solar System, the present state of Egyptian chronology, the Sothic (*sic*) year, Manetho, the chronological numbers in Josephus, &c. In each of these sections he lays down the law in an arbitrary manner, and he incorporates in his paragraphs a number of remarks which appear to us as irrelevant. In the second part, he discusses one dynasty after the other, and accepts what suits his own views in the writings of ancient and modern authors, and rejects as worthless what he cannot explain in their works. We have read the book with some care, but have not yet found the "startling discoveries" which Mr. Schmidt professes to have made, and we have failed to see how his chronological history is "self-verifying." We are familiar with the Sothic year, and the manner in which it has been applied to the elucidation of Egyptian chronology; but as different investigators, though using the same data concerning the rising of Sothis, arrive at different results, we feel that its correct application is not in all cases sufficiently understood. No one doubts that the Egyptians were astronomers of no mean order, and in recent years Sir Norman Lockyer has shown us what an integral part of their religious system the knowledge required for orienting temples was; but more would be known of their astronomical knowledge if the astronomical texts could be fully

understood in these days, and it is impossible to assign correct meanings to them until we know the exact signification of every word which occurs in them.

The weak part of Mr. Schmidt's argument is that, even supposing all his statements about dates in the Sothic year were correct and could be proved, he does not allow a sufficient number of Sothic years to cover the long period of years in which the Egyptian civilisation was evolved, and developed, and matured, and decayed; and it seems to us absurd to limit this period to three Sothic years, or 4380 ordinary years. Mr. Schmidt's system of chronology is worth no more than any other in which a large amount of "playing at doing sums" occurs, and he has merely put together in book form a series of notes and extracts from the works of Egyptologists, and from those of writers like Bunsen and Cory, which he has arranged according to his own peculiar views; the result is a perfectly unreadable volume of 569 pages, in which the "omissions" of one ancient authority and the "mistakes" of another are paraded in a bewildering manner. We have no wish to be flippant or to treat Mr. Schmidt's book in other than a serious manner, but his conclusions remind us forcibly of the result of the investigations into the date of the building of the Tower of Babel of the eminent English divine who declared that the "last brick was laid on the top stage of the Tower of Babel at Borsippa at 4 p.m. on Thursday, April 15, B.C. 2247." We cannot possess a continuous and accurate chronology of Egypt until we know how many kings reigned between Mena and Nectanebus, and how many years each reigned, and who succeeded whom; to make such a chronology at present is impossible because the necessary data do not exist. The writer who assigns precise dates to certain events in Egyptian history, *e.g.* the date B.C. 4244 to "the establishment of the kingdom," probably deserves to be considered either a "crank" or a charlatan, and in any case the presumption of the writer who asserts definitely that the Ionians were settled on the shores of "Greece and Asia Minor as far back as the reign of Teta, or 3146 B.C." is stupendous.

We are not reassured on the matter of Mr. Schmidt's scholarship when we find such blunders and spellings as the following: Puon-et, p. 7, *uae* (there is no such word) p. 9, Hyk-sat-u, p. 13, Rokchoris, p. 14, Tarako, p. 14, Sothiac, p. 16 and *passim*, Sopdet, p. 17, Uon-nofer, p. 20, Anu, p. 27, Ach-i-u, Ta-ân-nut, p. 30, Pa-api, p. 35, Amen-em-het, p. 49, Rohk-nez, p. 52, Num, p. 61, User-tasen, p. 81, Quebahu, p. 105, the identification of Ta-ânut (*sic*) with This, the derivation of the Hebrew name "Adam" from that of Mena, the first historical king of Egypt (!), p. 117, Hus-et and Hus-ir, p. 122, Per-son, p. 131, Osiropis, p. 253, Zawyet-el-Arrian, p. 268, Elephantinæ, *ibid.*; this list might be increased almost indefinitely. Mr. Schmidt looks upon the story of the Flood as an allegory which he interprets thus. Noah was born B.C. 2948, and the Flood "broke loose" over the land B.C. 2348; Thebes became independent B.C. 2948, and the XIth, XIIth and XIIIth dynasties of kings reigned exactly 600 years, *i.e.* a period equal to the age of Noah when the Flood "broke loose." According to Mr. Schmidt the Flood was no flood of water, but an invasion of Hyksos, and the ark to which Noah and his family, &c., fled was nothing else than the city of

Thebes, because the Hebrew word for ark is *Tébhûh*, and this, according to Mr. Schmidt, is the name of the city called Thebes. The sending forth of the dove from the ark is another part of the allegory, and means that Noah and his sons sent forth from Thebes messengers to the Hyksos offering their submission, which was duly accepted, and payment of tribute imposed upon them!

From reasoning of this kind the reader will easily be able to gauge Mr. Schmidt's qualifications as a reformer of the chronology of Egypt; as a final proof of the correctness of his views on this subject he points triumphantly to the fact that the fifteen cubits of height above the mountains which the waters reached at the time of the Flood refers to the depth of the waters of the annual Nile inundation, which he declares to be exactly fifteen cubits at Heliopolis! When he deals with Babylonian questions Mr. Schmidt is equally unfortunate, for on p. 545 he gravely refers to the discovery of a tablet "recording the war waged by Khammurabi against Eri-aku and his Elamite allies"; a reformer of Mr. Schmidt's pretensions should at least have shown that he had read that this "discovery" was exploded finally by Mr. L. W. King in the first volume of his "Letters of Khammurabi," published in 1898, for, as now stated by Mr. Schmidt, his arguments fall to the ground. Before he writes another book of "startling discoveries" we hope he will read the current literature of the subject, and will remember that assertion is not evidence, and that theories and hypotheses are not proofs.

ELECTRO-CHEMISTRY.

Practical Electro-Chemistry. By G. Bertram Blount. Pp. xi + 374. (Westminster: A. Constable and Co., Ltd., 1901.) Price 15s. net.

ALTHOUGH the foundation on which electro-chemistry is built was to a large extent laid by the genius and splendid research work of two Englishmen, Davy and Faraday, and is practically based on the laws enunciated by the latter, yet to-day, when many branches of industrial chemistry are being revolutionised by the introduction of this branch of chemical science, we as a nation know practically nothing about it. In America we are confronted by numerous works upon the subject; if we turn to Germany, there again we find a whole library of books devoted entirely to electro-chemical science and to its industrial application. Turning to our own country, what do we see? One or two books on electro-plating, books on electrical engineering, and a few translations of German works on electro-chemical analysis.

It was, therefore, with sincere pleasure and eager anticipation that one saw, in the publishers' announcements at the end of last year, that Messrs. Constable and Co. would shortly bring out a work on "Practical Electro-Chemistry," by Mr. Bertram Blount. The book which is now published consists of eight sections devoted to different branches of electro-chemistry.

The first, or introductory, section treats in an interesting manner of electrolysis and more or less of the theory of solution. A useful subsection is also given on the "Method of calculating output in electrolytic processes." After discussing at no very great length a particular